

ATTACHMENT A. DISCUSSION OF NRC LICENSE RENEWAL NATIONAL ENVIRONMENTAL POLICY ACT ISSUES

Nuclear Management Company, LLC (NMC) has prepared this Environmental Report in accordance with U.S. Nuclear Regulatory Commission (NRC) requirements at 10 CFR 51.53. NRC included in the regulation a list of National Environmental Policy Act issues for license renewal of nuclear power plants. Table A-1 lists these 92 issues with assigned categorization and identifies where NMC addressed each issue in the Environmental Report. A cross-reference to the section in NRC's *Generic Environmental Impact Statement for License Renewal of Nuclear Plants* (GEIS) (NRC 1996, 1999) containing NRC's generic analysis is also presented for the issues applicable to Monticello Nuclear Generating Plant license renewal. For expediency, NMC has assigned a number to each issue and uses the issue numbers throughout the Environmental Report.

**TABLE A-1
MNGP ENVIRONMENTAL REPORT
DISCUSSION OF LICENSE RENEWAL NEPA ISSUES**

Issue ^a	Category ^a	Section of this Environmental Report	GEIS Cross Reference ^b (Section)
1. Impacts of refurbishment on surface water quality	1	NA ^c	
2. Impacts of refurbishment on surface water use	1	NA ^c	
3. Altered current patterns at intake and discharge structures	1	4.1	4.2.1.2.1
4. Altered salinity gradients	1	NA ^d	
5. Altered thermal stratification of lakes	1	NA ^e	
6. Temperature effects on sediment transport capacity	1	4.1	4.2.1.2.3
7. Scouring caused by discharged cooling water	1	4.1	4.2.1.2.3
8. Eutrophication	1	4.1	4.2.1.2.3
9. Discharge of chlorine or other biocides	1	4.1	4.2.1.2.4
10. Discharge of sanitary wastes and minor chemical spills	1	4.1	4.2.1.2.4
11. Discharge of other metals in waste water	1	4.1	4.2.1.2.4 4.3.2.2
12. Water use conflicts (plants with once-through cooling systems)	1	4.1	4.2.1.3
13. Water use conflicts (plants with cooling ponds or cooling towers using makeup water from a small river with low flow)	2	4.2	4.3.2.1
14. Refurbishment impacts to aquatic resources	1	NA ^c	
15. Accumulation of contaminants in sediments or biota	1	4.1	4.2.1.2.4 4.3.3
16. Entrainment of phytoplankton and zooplankton	1	4.1	4.2.2.1.1 4.3.3
17. Cold shock	1	4.1	4.2.2.1.5 4.3.3

TABLE A-1 (CONTINUED)
MNGP ENVIRONMENTAL REPORT
DISCUSSION OF LICENSE RENEWAL NEPA ISSUES

Issue ^a	Category ^a	Section of this Environmental Report	GEIS Cross Reference ^b (Section)
18. Thermal plume barrier to migrating fish	1	4.1	4.2.2.1.6 4.3.3
19. Distribution of aquatic organisms	1	4.1	4.2.2.1.6, 4.3.3
20. Premature emergence of aquatic insects	1	4.1	4.2.2.1.7, 4.3.3
21. Gas supersaturation (gas bubble disease)	1	4.1	4.2.2.1.8, 4.3.3
22. Low dissolved oxygen in the discharge	1	4.1	4.2.2.1.9, 4.3.3
23. Losses from predation, parasitism, and disease among organisms exposed to sublethal stresses	1	4.1	4.2.2.1.10, 4.3.3
24. Stimulation of nuisance organisms (e.g., shipworms)	1	4.1	4.2.2.1.11, 4.3.3
25. Entrainment of fish and shellfish in early life stages for plants with once-through and cooling pond heat dissipation systems	2	4.3	4.2.2.1.2
26. Impingement of fish and shellfish for plants with once-through and cooling pond heat dissipation systems	2	4.4	4.2.2.1.3
27. Heat shock for plants with once-through and cooling pond heat dissipation systems	2	4.5	4.2.2.1.4
28. Entrainment of fish and shellfish in early life stages for plants with cooling-tower-based heat dissipation systems	1	4.1	4.3.3
29. Impingement of fish and shellfish for plants with cooling-tower-based heat dissipation systems	1	4.1	4.3.3
30. Heat shock for plants with cooling-tower-based heat dissipation systems	1	4.1	4.3.3
31. Impacts of refurbishment on groundwater use and quality	1	NA ^c	

TABLE A-1 (CONTINUED)
MNGP ENVIRONMENTAL REPORT
DISCUSSION OF LICENSE RENEWAL NEPA ISSUES

Issue ^a	Category ^a	Section of this Environmental Report	GEIS Cross Reference ^b (Section)
32. Groundwater use conflicts (potable and service water; plants that use < 100 gpm)	1	4.1	4.8.1.1
33. Groundwater use conflicts (potable, service water, and dewatering; plants that use > 100 gpm)	2	NA ^f	
34. Groundwater use conflicts (plants using cooling towers withdrawing makeup water from a small river)	2	4.2	4.8.1.3
35. Groundwater use conflicts (Ranney wells)	2	NA ^g	
36. Groundwater quality degradation (Ranney wells)	1	NA ^g	
37. Groundwater quality degradation (saltwater intrusion)	1	NA ^d	
38. Groundwater quality degradation (cooling ponds in salt marshes)	1	NA ^{d,h}	
39. Groundwater quality degradation (cooling ponds at inland sites)	2	NA ^h	
40. Refurbishment impacts to terrestrial resources	2	4.6 ⁱ	3.6 ^c
41. Cooling tower impacts on crops and ornamental vegetation	1	4.1	4.3.4
42. Cooling tower impacts on native plants	1	4.1	4.3.5.1
43. Bird collisions with cooling towers	1	4.1	4.3.5.2
44. Cooling pond impacts on terrestrial resources	1	NA ^h	
45. Power line right-of-way management (cutting and herbicide application)	1	4.1	4.5.6.1
46. Bird collisions with power lines	1	4.1	4.5.6.2
47. Impacts of electromagnetic fields on flora and fauna (plants, agricultural crops, honeybees, wildlife, livestock)	1	4.1	4.5.6.3
48. Floodplains and wetlands on power line right-of-way	1	4.1	4.5.7

TABLE A-1 (CONTINUED)
MNGP ENVIRONMENTAL REPORT
DISCUSSION OF LICENSE RENEWAL NEPA ISSUES

Issue ^a	Category ^a	Section of this Environmental Report	GEIS Cross Reference ^b (Section)
49. Threatened or endangered species	2	4.7	3.9 ^c , 4.1
50. Air quality during refurbishment (nonattainment and maintenance areas)	2	4.8 ⁱ	3.3 ^c
51. Air quality effects of transmission lines	1	4.1	4.5.2
52. Onsite land use	1	4.1	3.2 ^c
53. Power line right-of-way land-use impacts	1	4.1	4.5.3
54. Radiation exposures to the public during refurbishment	1	NA ^c	
55. Occupational radiation exposures during refurbishment	1	NA ^c	
56. Microbiological organisms (occupational health)	1	4.1	4.3.6
57. Microbiological organisms (public health) (plants using lakes or canals, or cooling towers or cooling ponds that discharge to a small river)	2	4.9	4.3.6
58. Noise	1	4.1	4.3.7
59. Electromagnetic fields, acute effects (electric shock)	2	4.10	4.5.4.1
60. Electromagnetic fields, chronic effects	NA ^j	4.1	4.5.4.2
61. Radiation exposures to public (license renewal term)	1	4.1	4.6.2
62. Occupational radiation exposures (license renewal term)	1	4.1	4.6.3
63. Housing impacts	2	4.11	3.7.2 ^c , 4.7.1
64. Public services: public safety, social services, and tourism and recreation	1	4.1	3.7.4 ^c , 4.7.3
65. Public services: public utilities	2	4.12	3.7.4.5 ^c , 4.7.3.5
66. Public services, education (refurbishment)	2	4.13 ⁱ	3.7.4.1 ^c

TABLE A-1 (CONTINUED)
MNGP ENVIRONMENTAL REPORT
DISCUSSION OF LICENSE RENEWAL NEPA ISSUES

Issue ^a	Category ^a	Section of this Environmental Report	GEIS Cross Reference ^b (Section)
67. Public services, education (license renewal term)	1	4.1	4.7.3.1
68. Offsite land use (refurbishment)	2	4.14.1 ⁱ	3.7.5 ^c
69. Offsite land use (license renewal term)	2	4.14.2	4.7.4
70. Public services, transportation	2	4.15	3.7.4.2 ^c , 4.7.3.2
71. Historic and archaeological resources	2	4.16	3.7.7 ^c , 4.7.7
72. Aesthetic impacts (refurbishment)	1	NA ^c	
73. Aesthetic impacts (license renewal term)	1	4.1	4.7.6
74. Aesthetic impacts of transmission lines (license renewal term)	1	4.1	4.5.8
75. Design basis accidents	1	4.1	5.3.2, 5.5.1
76. Severe accidents	2	4.17	5.3.3, 5.4, 5.5.2
77. Offsite radiological impacts (individual effects from other than the disposal of spent fuel and high-level radioactive waste)	1	4.1	6.2.4, 6.6
78. Offsite radiological impacts (collective effects)	1	4.1	6.2.4, 6.6
79. Offsite radiological impacts (spent fuel and high-level radioactive waste disposal)	1	4.1	6.2.4, 6.6
80. Nonradiological impacts of the uranium fuel cycle	1	4.1	6.2.2.6, 6.2.2.7, 6.2.2.8, 6.2.2.9, 6.6
81. Low-level radioactive waste storage and disposal	1	4.1	6.4.2, 6.4.3, 6.4.4, 6.6
82. Mixed waste storage and disposal	1	4.1	6.4.5, 6.6

**TABLE A-1 (CONTINUED)
MNGP ENVIRONMENTAL REPORT
DISCUSSION OF LICENSE RENEWAL NEPA ISSUES**

Issue ^a	Category ^a	Section of this Environmental Report	GEIS Cross Reference ^b (Section)
83. Onsite spent fuel	1	4.1	6.4.6, 6.6
84. Nonradiological waste	1	4.1	6.5, 6.6
85. Transportation	1	4.1	Addendum 1 (NRC 1999)
86. Radiation doses (decommissioning)	1	4.1	7.3.1, 7.4
87. Waste management (decommissioning)	1	4.1	7.3.2, 7.4
88. Air quality (decommissioning)	1	4.1	7.3.3, 7.4
89. Water quality (decommissioning)	1	4.1	7.3.4, 7.4
90. Ecological resources (decommissioning)	1	4.1	7.3.5, 7.4
91. Socioeconomic impacts (decommissioning)	1	4.1	7.3.7, 7.4
92. Environmental justice	NA ⁱ	2.5 ^k	Not addressed in GEIS

a. Source: 10 CFR 51, Subpart A, Appendix B, Table B-1 (Issue numbers added to facilitate discussion).

b. Source: NRC 1996.

c. NRC findings are not applicable because NMC has no plans for major refurbishment.

d. Not applicable because MNGP is not in a coastal area.

e. Not applicable because MNGP is not located on a lake.

f. Not applicable because the MNGP site pumps less than 100 gpm.

g. Not applicable because MNGP does not use Ranney wells.

h. Not applicable because MNGP does not use cooling ponds.

i. All Category 2 issues applicable to MNGP included in the report, though NMC plans no refurbishment activities.

j. Not applicable. Regulation does not categorize this issue.

k. NMC provides demographic information to support an analysis by NRC, if an analysis is required.

GEIS = *Generic Environmental Impact Statement for License Renewal of Nuclear Plants*

MNGP = Monticello Nuclear Generating Plant

NA = Not applicable

NEPA = National Environmental Policy Act

NMC = Nuclear Management Company, LLC

NRC = U.S. Nuclear Regulatory Commission

A.1 REFERENCES

- NRC (U.S. Nuclear Regulatory Commission). 1996. *Generic Environmental Impact Statement for License Renewal of Nuclear Plants*. NUREG-1437. Office of Nuclear Regulatory Research. Washington, D.C. May.
- NRC (U.S. Nuclear Regulatory Commission). 1999. *Generic Environmental Impact Statement for License Renewal of Nuclear Plants*. Section 6.3, “Transportation,” and Table 9.1, “Summary of Findings on NEPA Issues for License Renewal of Nuclear Power Plants.” NUREG-1437, Vol. 1, Addendum 1. Office of Nuclear Reactor Regulation. Washington, D.C. August.

ATTACHMENT B. CLEAN WATER ACT DOCUMENTATION

Monticello Nuclear Generating Plant NPDES Permit #MN0000868B-2

Letter from Terry Hoffman (Minnesota Pollution Control Agency) to D.E. SellsB-34
(U.S. Nuclear Regulatory Commission) regarding “Environmental Issues-NSP
Monticello Nuclear Generating Plant – NRC Concerns Discussed at Meeting of
July 31, 1979” dated September 18, 1979.



Minnesota Pollution Control Agency

August 22, 2002

**CERTIFIED MAIL NO. 7001 0320 0004 0491 5244
RETURN RECEIPT REQUESTED**

Mr. Terry Coss P.E.
Manager, Water Quality and Solid Waste
Xcel Energy
414 Nicollet Mall
Minneapolis, MN 55401

RE: Final Reissued NPDES/SDS Permit No. MN 0000868
Monticello Nuclear Generating Plant

Dear Mr. Coss:

Enclosed is a copy of the reissued final National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS) permit for the Monticello Nuclear Generating Plant. This permit supersedes an earlier NPDES/SDS permit that was issued on November 12, 1996. All comments submitted in writing during the public notice comment period have been considered in the formulation of the terms and conditions of the permit.

It is the responsibility of the Permittee to maintain compliance with all of the terms and conditions of this permit. Please carefully review the entire permit.

If you have any questions regarding any of the terms and conditions of the permit, please contact Don Kriens, my staff, at (651) 296-7734.

Sincerely,

A handwritten signature in black ink that reads "Michael (Mike) J. Tibbetts".

Michael (Mike) J. Tibbetts
Major Facilities Section Manager
Majors and Remediation Division

MJT:lmg

Enclosure: Final Permit

cc: Morris Beaton, U.S. Environmental Protection Agency, Chicago (w/final permit)



STATE OF MINNESOTA
Minnesota Pollution Control Agency
Majors and Remediation Division

National Pollutant Discharge Elimination System (NPDES) and
State Disposal System (SDS) Permit MN 0000868

PERMITTEE: Northern States Power Company
doing business as Xcel Energy

FACILITY NAME: Monticello Nuclear Generating Plant

RECEIVING WATERS: Mississippi River

CITY/TOWNSHIP: Monticello

COUNTY: Wright

ISSUANCE DATE: August 22, 2002

EXPIRATION DATE: July 31, 2007

The state of Minnesota, on behalf of its citizens through the Minnesota Pollution Control Agency (MPCA), authorizes the Permittee to construct, install and operate a disposal system at the facility named above, and to discharge from this facility to the receiving waters named above, in accordance with the requirements of this permit.

The goal of this permit is to protect water quality according to Minnesota and U.S. statutes and rules, including Minn. Stat. chs. 115 and 116, Minn. R. chs. 7001, 7050 and 7060, and the U.S. Clean Water Act.

This permit is effective on the issuance date identified above, and supersedes the previous permit that was issued for this facility on November 12, 1996.

This permit expires at midnight on the expiration date identified above.

Signature:

Michael (Mike) J. Tibbetts
Major Facilities Section Manager
Majors and Remediation Division

for Karen A. Studders
Commissioner
Minnesota Pollution Control Agency

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Description

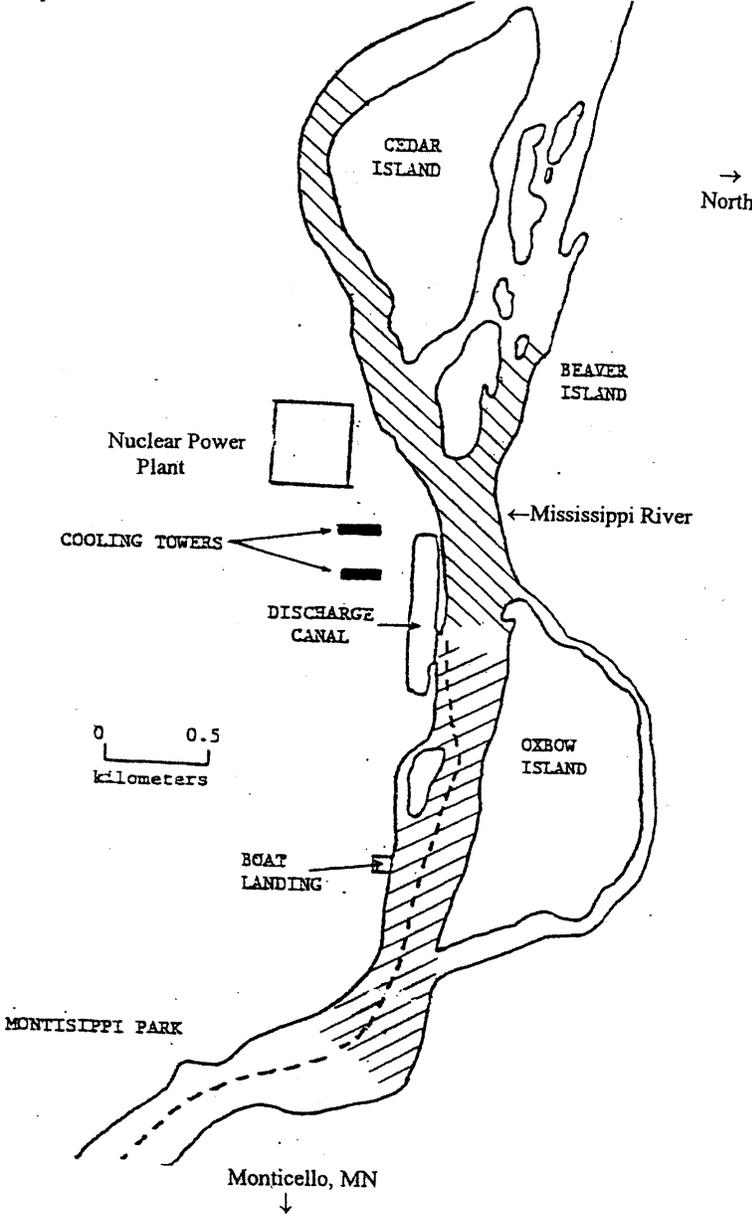
This facility is a boiling water reactor nuclear fueled steam electric generating plant with a generating capacity of 620 megawatts. Water used at the plant for condenser cooling, service water cooling, and fire protection is withdrawn from the river, and water used at the plant for other plant uses is withdrawn from wells and the river. Water used for condenser cooling is cooled by cooling towers prior to discharge to meet the permitted thermal effluent limitations during specified periods of the year. Wastewater treatment systems at the plant include the cooling tower system, waste holdup or retention pond, turbine building normal waste sump, intake screen backwash system, and yard area storm drain system. Infrequent disposal of specific wastewaters are allowed on specific land application sites in accordance with Minnesota Pollution Control Agency (MPCA) approval.

The plant cooling waters are discharged, at times via cooling towers, to the plant discharge canal. SD001 is the plant discharge out of the discharge canal. The discharge canal discharges to the Mississippi River after flowing over a discharge structure which dissipates energy and prohibits fish entry into the discharge canal. SD003 is the discharge from the waste holdup pond. The holdup pond receives reverse osmosis system wastewater, building drain waters, heating boiler blowdown, diesel generator cooling water, filter backwashes, and occasional fire protection waters. After meeting discharge limitations the holdup pond is discharged as SD 003 to the discharge canal. SD004 is the turbine building normal waste discharge which receives waters and wastewaters from the heating boiler deaerator, waterbox scavenging system drainage, lube oil seal water, reverse osmosis system wastewater, and miscellaneous floor and area drainage. After meeting discharge limitations SD004 is discharged to the plant intake area off of the Mississippi River. SD005 consists of the plant's intake screen wash water and is discharged to the Mississippi River. SD006 is the plant yard and area storm water which may also include roof drainage, standby liquid control tank (demineralized water test solution), emergency diesel generator emergency service water for cooling, and occasional fire protection system waters. Sanitary wastewater is discharged to the city of Monticello wastewater treatment plant. The plant also land applies specific wastewaters at approved locations at the plant site. These wastewaters are generated intermittently and may consist of steam cleaning washwaters, equipment cleaning washwaters, heat exchanger cleaning washwaters, and miscellaneous washwaters. An NPDES FlowPath Diagram is included on page 6 which describes the specific wastewaters generated at their discharge locations. Sediment cleaning of plant cooling water systems is managed in the site's dredged material facilities, which also entails upland placement.

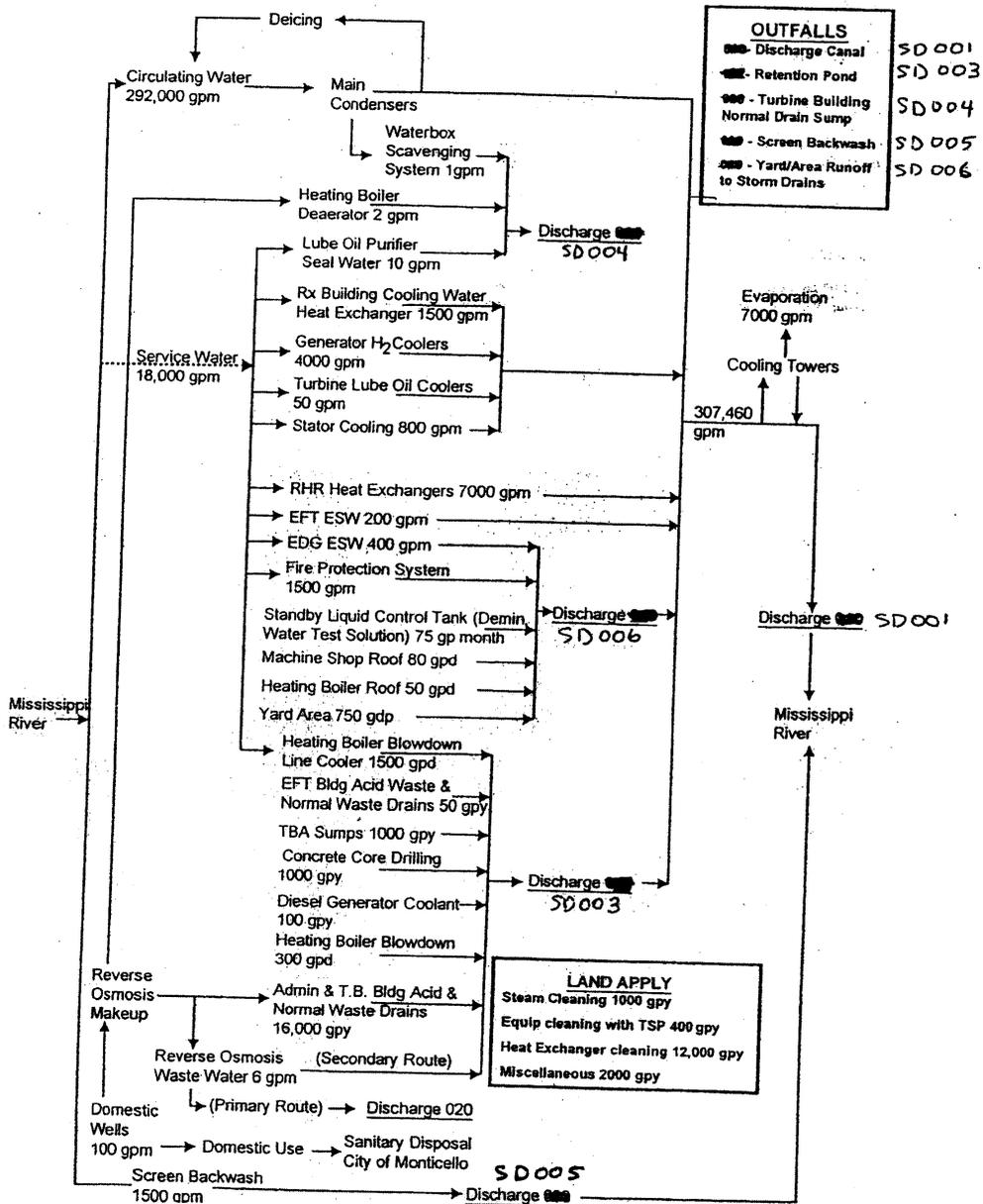
Chemical additives are used in various systems at the plant including boiler feedwaters, cooling water treatment, and other miscellaneous uses. The MPCA has reviewed and approved of these chemical additives, which are on file. New chemical additives or changes in dosages of chemical additives must be approved by the MPCA in accordance with the permit.

The location of the plant is shown on page 5.

Map of Facility Location



NPDES Flow Path Diagram



Permit Issued: August 22, 2002
Permit Expires: July 31, 2007

Summary of Stations

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Surface Discharge Stations

Station	Type of Station	Local Name
SD001	Effluent To Surface Water	Plant Cooling Water Discharge
SD003	Effluent To Surface Water	Holdup Pond Effluent Discharge
SD004	Effluent To Surface Water	Turbine Bldg Sump & Misc Discharge
SD005	Effluent To Surface Water	Screen Backwash Discharge
SD006	Effluent To Surface Water	Screen Bkwhs & Roof/Yard Drain

Surface Water Stations

Station	Type of Station	Local Name
SW001	Stream/River/Ditch, Upstream	water intake

Waste Stream Stations

Station	Type of Station	Local Name
WS001	Internal Waste Stream	Mid-downstream discharge canal

**Monticello Nuclear Generating Plant
Application for Renewed Operating License
Appendix E – Environmental Report**

Permit Issued: August 22, 2002
Permit Expires: July 31, 2007

Limits and Monitoring Requirements

Pag
Permit #: MN00001

The Permittee shall comply with the limits and monitoring requirements as specified below.

SD 001: Plant Cooling Water Discharge

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Bromine (as Br)	Monitor Only	kg/day	Calendar Month Maximum	Jan-Dec	Measurement	1 x Day	
Chlorination	2.0	hr/day	Daily Maximum	Jan-Dec	Measurement	1 x Day	
Chlorine Rate	Monitor Only	kg/day	Calendar Month Maximum	Jan-Dec	Measurement	1 x Day	
Flow	Monitor Only	mgd	Calendar Month Average	Jan-Dec	Estimate	1 x Month	
Flow	Monitor Only	mgd	Calendar Month Maximum	Jan-Dec	Estimate	1 x Month	
Flow	Monitor Only	MG	Calendar Month Total	Jan-Dec	Estimate	1 x Month	
Oxidants, Total Residual	0.2	mg/L	Instantaneous Maximum	Jan-Dec	Grab	1 x Day	6
Plant Capacity Factor, Percent of Capacity	Monitor Only	%	Calendar Month Average	Jan-Dec	Calculation	1 x Month	
Temperature, Water	80	Deg F	Daily Maximum	Dec-Feb	Measurement, Continuous	1 x Day	5
Temperature, Water	85	Deg F	Daily Maximum	Mar, Nov	Measurement, Continuous	1 x Day	5
Temperature, Water	95	Deg F	Daily Maximum	Apr-Oct	Measurement, Continuous	1 x Day	5

SD 003: Holdup Pond Effluent Discharge

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Flow	Monitor Only	mgd	Calendar Month Average	Jan-Dec	Estimate	1 x Month	2
Flow	Monitor Only	mgd	Calendar Month Maximum	Jan-Dec	Estimate	1 x Month	2
Flow	Monitor Only	MG	Calendar Month Total	Jan-Dec	Estimate	1 x Month	2
pH	9.0	SU	Calendar Month Maximum	Jan-Dec	Grab	1 x Week	4
pH	6.0	SU	Calendar Month Minimum	Jan-Dec	Grab	1 x Week	4
Solids, Total Suspended (TSS)	9.9	kg/day	Calendar Month Average	Jan-Dec	Grab	1 x Week	2
Solids, Total Suspended (TSS)	30	mg/L	Calendar Month Average	Jan-Dec	Grab	1 x Week	3
Solids, Total Suspended (TSS)	33.2	kg/day	Daily Maximum	Jan-Dec	Grab	1 x Week	2
Solids, Total Suspended (TSS)	100	mg/L	Daily Maximum	Jan-Dec	Grab	1 x Week	2

SD 004: Turbine Bldg Sump & Misc Discharge

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Flow	Monitor Only	mgd	Calendar Month Average	Jan-Dec	Estimate	1 x Month	
Flow	Monitor Only	mgd	Calendar Month Maximum	Jan-Dec	Estimate	1 x Month	
Flow	Monitor Only	MG	Calendar Month Total	Jan-Dec	Estimate	1 x Month	

Monticello Nuclear Generating Plant
Application for Renewed Operating License
Appendix E – Environmental Report

Permit Issued: August 22, 2002
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Limits and Monitoring Requirements

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The Permittee shall comply with the limits and monitoring requirements as specified below.

SD 004: Turbine Bldg Sump & Misc Discharge

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Oil & Grease, Total Recoverable (Hexane Extraction)	4.2	kg/day	Calendar Month Average	Jan-Dec	Grab	1 x Week	
Oil & Grease, Total Recoverable (Hexane Extraction)	10	mg/L	Calendar Month Average	Jan-Dec	Grab	1 x Week	
Oil & Grease, Total Recoverable (Hexane Extraction)	15	mg/L	Daily Maximum	Jan-Dec	Grab	1 x Week	
Oil & Grease, Total Recoverable (Hexane Extraction)	6.3	kg/day	Maximum Calendar Week Average	Jan-Dec	Grab	1 x Week	
pH	9.0	SU	Calendar Month Maximum	Jan-Dec	Grab	1 x Week	4
pH	6.0	SU	Calendar Month Minimum	Jan-Dec	Grab	1 x Week	4
Solids, Total Suspended (TSS)	12.7	kg/day	Calendar Month Average	Jan-Dec	Grab	1 x Week	
Solids, Total Suspended (TSS)	30	mg/L	Calendar Month Average	Jan-Dec	Grab	1 x Week	1
Solids, Total Suspended (TSS)	42.3	kg/day	Daily Maximum	Jan-Dec	Grab	1 x Week	
Solids, Total Suspended (TSS)	100	mg/L	Daily Maximum	Jan-Dec	Grab	1 x Week	1

J05: Screen Backwash Discharge

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Flow	Monitor Only	mgd	Calendar Month Average	Jan-Dec	Estimate	1 x Month	
Flow	Monitor Only	mgd	Calendar Month Maximum	Jan-Dec	Estimate	1 x Month	
Flow	Monitor Only	MG	Calendar Month Total	Jan-Dec	Estimate	1 x Month	

SD 006: Screen Bkwh & Roof/Yard Drain

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Flow	Monitor Only	mgd	Calendar Month Average	Jan-Dec	Estimate	1 x Month	
Flow	Monitor Only	mgd	Calendar Month Maximum	Jan-Dec	Estimate	1 x Month	
Flow	Monitor Only	MG	Calendar Month Total	Jan-Dec	Estimate	1 x Month	

SW 001: water intake

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Temperature, Water	Monitor Only	Deg F	Calendar Month Average	Jan-Dec	Measurement, Continuous	1 x Day	
Temperature, Water	Monitor Only	Deg F	Calendar Month Maximum	Jan-Dec	Measurement, Continuous	1 x Day	
Temperature, Water	Monitor Only	Deg F	Calendar Month Minimum	Jan-Dec	Measurement, Continuous	1 x Day	

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Limits and Monitoring Requirements

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The Permittee shall comply with the limits and monitoring requirements as specified below.

WS 001: Mid-downstream discharge canal

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Oxidants, Total Residual	0.05	mg/L	Daily Maximum	Jan-Dec	Grab	1 x Day	7

Notes:

- 1 – Calendar week average (seven consecutive days) concentration shall not exceed 45 mg/l.
- 2 – During discharge only.
- 3 – During discharge only. In addition to the monthly average and daily maximum TSS limitations, the calendar week average concentration shall not exceed 45 mg/l.
- 4 – During discharge only. pH measured as soon as practicable after sample collection and no later than one hour after collection.
- 5 – Limitation applies to the maximum daily average temperature at the end of the discharge canal. See Chapter 1, Section 5.1-5.5 for additional thermal discharge limitation requirements.
- 6 – Total residual oxidants are expressed as chlorine.
- 7 – Total residual oxidants are expressed as chlorine. The .05 mg/l total residual oxidant daily maximum concentration applies for monitoring conducted midway downstream in the discharge canal above the fish weir when bromine or bromine and chlorine is used. The once per day monitoring frequency applies only during periods when monitoring is conducted at this location. If only chlorine is used the maximum residual oxidant concentration limit of .2 mg/l applies at the discharge as described for SD 001.

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Chapter 1. Surface Discharge Station Requirements - General

1. Sampling Location

- 1.1 Samples for total residual oxidant for Station SD 001 shall be taken at a point representative of the plant cooling water discharge, at the cooling tower canal when the towers are in service and at the discharge structure from the main discharge line into the discharge canal when the towers are out of service. For total residual oxidants samples for SD 001 may also be taken at a point midway downstream in the discharge canal when bromine or bromine and chlorine are used, and under this condition the maximum total residual oxidant may not exceed .05 mg/l. Samples for Station SD 002, SD 003, SD 004, and SD 005 shall be taken at locations representative of their individual discharges prior to mixing with any other waste streams.

2. Surface Discharges

- 2.1 Floating solids or visible foam shall not be discharged in other than trace amounts.
- 2.2 Oil or other substances shall not be discharged in amounts that create a visible color film.
- 2.3 The Permittee shall install and maintain outlet protection measures at the discharge stations if necessary to prevent erosion.

Discharge Monitoring Reports

- 3.1 The Permittee shall submit monitoring results for discharges in accordance with the limits and monitoring requirements for this station. If no discharge occurred during the reporting period, the Permittee shall check the "No Discharge" box on the Discharge Monitoring Report (DMR).

4. Winter Sampling Conditions

- 4.1 The Permittee shall sample flows at the designated monitoring stations including when this requires removing ice to sample the water. If the station is completely frozen throughout a designated sampling month, the Permittee shall check the "No Discharge" box on the Discharge Monitoring Report (DMR) and note the ice conditions in Comments on the DMR.

5. Special Requirements

Thermal Discharge Limitations

- 5.1 When in power operation, both circulating water pumps at the screenhouse shall be operated to limit temperature rise through the condenser and thereby minimize cold shock potential, except in the event that one of the pumps is out of service due to equipment failure or performance of maintenance to prevent equipment failures.

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Chapter 1. Surface Discharge Station Requirements - General

5. Special Requirements

- 5.2 All existing cooling towers shall be operated whenever the ambient river temperature measured at some point unaffected by the plant's discharge is consistently at or above 20 degrees C (68 degrees F), except in the event the cooling towers or a portion of the cooling towers are out of service due to equipment failure or performance of maintenance to prevent equipment failure. In such case the portion of the cooling towers out of service shall be limited to those portions requiring said repair or maintenance.
- 5.3 As described in the Limits and Monitoring Section in no case shall the maximum daily average temperature at the end of the discharge canal exceed the following limiting temperatures:
1. During the months April through October: 35 degrees C (95 degrees F)
 2. During the months November and March: 29.4 degrees C (85 degrees F)
 3. During the months December through February: 26.7 degrees C (80 degrees F)
- 5.4 In cases when the ambient river temperature is below 20 degrees C (68 degrees F), but low river flow would otherwise cause the average daily mixed river temperature immediately below the discharge to exceed 30 degrees C (86 degrees F), the Permittee shall operate the cooling towers except as provided in section 5.2 above.
- 5.5 Whenever the Permittee is required by the terms of its water appropriation permit, dated March 12, 1970 and any subsequent revisions, from the Minnesota Department of Natural Resources to operate the cooling towers in a partial recirculation or closed cycle mode, the Permittee may discharge heated water in excess of the thermal limitations described in the Limits and Monitoring Section and in section 5.3 above. Exceedance of any thermal limitations shall be minimized to the extent possible under these conditions.

Use and Discharge of Alkyl Phenol Ethoxylates

- 5.6 Detergents or chemical products that contain alkyl phenol ethoxylates (APEs) used at the plant in processes or systems which discharge to a surface discharge shall be substituted with detergents or products not containing APEs or linear alcohol ethoxylates (LAE).

Fish Kill Liability

- 5.7 The Permittee shall be responsible for any fish kill due to cold shock resulting from a unit trip-out or shut down of the plant. The Permittee shall comply with the Minnesota Department of Natural Resources (MDNR) requirements concerning any costs or charges levied by the MDNR for fish or other aquatic organisms lost due to cold shock.

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Chapter 1. Surface Discharge Station Requirements - General

5. Special Requirements

Intake Screen Operation

- 5.8 The Permittee shall operate the intake traveling screens in a continuous mode whenever the water temperature consistently exceeds 50 degrees F, or at some other schedule proposed by the Permittee and approved by the MPCA, except during periods when repairs or maintenance are necessary to prevent equipment failure.

Continued Fishery Monitoring

- 5.9 The Permittee shall continue to monitor the fisheries near the plant in a manner consistent with the Fisheries Study Plan submitted to the MPCA December 28, 1979 and any subsequent approved revisions. Monitoring shall occur 4 times per year using electrofishing method during May, July, September, and late October. In addition to electrofishing, 6 fish seining runs per year shall be completed. Any changes to the prescribed fisheries monitoring must be approved by the MPCA.

A biennial environmental monitoring report for the fisheries monitoring shall be submitted to the MPCA by May 1 on even numbered years summarizing the previous 2 years monitoring activities, beginning with the year 2004.

Prohibition of Discharge of Metal Cleaning Wastes

- 5.10 The Permittee is prohibited from discharge of any metal cleaning wastes or wastewaters without approval of the MPCA.

Surface Runoff from Land Application Areas

- 5.11 The Permittee is approved for land application of specific wastewaters including steam cleaning (approximately 1000 gallons per year), equipment cleaning (approximately 400 gallons per year), heat exchanger cleaning (approximately 12,000 gallons per year), and miscellaneous (approximately 2000 gallons per year). Land application of these waters shall be completed in a manner to prohibit any runoff from the land application sites, and shall be limited only to those waters approved by the MPCA. Land application of any other waters must receive approval by the MPCA. Chemical additives, or changes in chemical additives, used in cleaning processes to be subsequently land applied shall receive approval for use by the MPCA.

Intermittent Bromination/Chlorination

- 5.12 Any changes in the current program used at the plant for condenser and cooling tower treatment using bromine and/or chlorine biocides which may affect the capability of the plant to meet State Water Quality Standards, including applicable toxicity standards, shall be reported to the MPCA. Toxicity testing may be required for any changes to demonstrate continued non-toxicity of the discharge.

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Chapter 2. Surface Water Station Requirements - General

1. Sampling Location

1.1 Samples for Station SW 001 shall be taken at a point representative of the plant intake cooling water.

2. Discharge Monitoring Reports

2.1 The Permittee shall submit monitoring results in accordance with the limits and monitoring requirements for this station. If flow conditions are such that no sample could be acquired, the Permittee shall check the "No Flow" box and note the conditions on the Discharge Monitoring Report (DMR).

3. Winter Sampling Conditions

3.1 The Permittee shall sample flows at the designated monitoring stations including when this requires removing ice to sample the water. If the station is completely frozen throughout a designated sampling month, the Permittee shall check the "No Flow" box on the Discharge Monitoring Report (DMR) and note the ice conditions in Comments on the DMR.

Chapter 3. Waste Stream Station Requirements - General

1. Sampling Location

1.1 Samples for WS 001 shall be taken at a point midway downstream in the discharge canal above the fish weir.

2. Sampling Frequency

2.1 Sampling shall be conducted only when biocide monitoring is conducted at the downstream midway point in the discharge canal when bromine or bromine and chlorine are used. If no samples are taken at this point the DMR shall be designated as no flow, and biocide monitoring shall be conducted as required for SD 001.

Chapter 4. Station Requirements - Specific

1. Surface Discharge Stations

1.1 SD 001, SD 003, SD 004, SD 005, SD 006: Submit a monthly DMR monthly by 21 days after end of each calendar month following permit issuance.

2. Surface Water Stations

2.1 SW 001: Submit a monthly DMR monthly by 21 days after end of each calendar month following permit issuance.

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Chapter 4. Station Requirements - Specific

3. Waste Stream Stations

- 3.1 WS 001: Submit a monthly DMR monthly by 21 days after the end of each calendar month following permit issuance.

Chapter 5. Industrial Process Wastewater, NPDES/SDS

1. Authorization

- 1.1 This permit authorizes the Permittee to treat and dispose of industrial process wastewater in accordance with the provisions of this chapter.

2. Prohibited Discharges

- 2.1 This permit does not authorize the discharge of sewage, wash water, scrubber water, spills, oil, hazardous substances, or equipment/vehicle cleaning and maintenance wastewaters to ditches, wetlands or other surface waters of the state, except as permitted in the site's NPDES systems.
- 2.2 The Permittee shall prevent the routing of pollutants from the facility to a municipal wastewater treatment system in any manner unless authorized by the pretreatment standards of the MPCA and the municipal authority.
- 2.3 The Permittee shall not transport pollutants to a municipal wastewater treatment system that will interfere with the operation of the treatment system or cause pass-through violations of effluent limits or water quality standards.

3. Toxic Substance Reporting

- 3.1 The Permittee shall notify the MPCA immediately of any knowledge or reason to believe that an activity has occurred that would result in the discharge of a toxic pollutant listed in Minnesota Rules, pt. 7001.1060, subp. 4 to 10 or listed below that is not limited in the permit, if the discharge of this toxic pollutant has exceeded or is expected to exceed the following levels:
 - a. for acrolein and acrylonitrile, 200 ug/L;
 - b. for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol, 500 ug/L;
 - c. for antimony, 1mg/L;
 - d. for any other toxic pollutant listed in Minnesota Rules, pt. 7001.1060, subp. 4 to 10, 100 ug/L; or
 - e. five times the maximum concentration value identified and reported for that pollutant in the permit application. (Minnesota Rules, pt. 7001.1090, subp. 2.A)

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Chapter 5. Industrial Process Wastewater, NPDES/SDS

3. Toxic Substance Reporting

3.2 The Permittee shall notify the MPCA immediately if the Permittee has begun or expects to begin to use or manufacture as an intermediate or final by-product a toxic pollutant that was not reported in the permit application under Minnesota Rules, pt. 7001.1050, subp. 2.J. (Minnesota Rules, pt. 7001.1090, subp. 2.B)

4. Special Conditions for Hydrostatic Test Water

4.1 The Permittee shall notify the MPCA prior to discharging hydrostatic test waters. The Permittee shall provide information necessary to evaluate the potential impact of this discharge and to ensure compliance with this permit. This information shall include:

- a. the proposed discharge dates;
- b. the name and location of receiving waters, including city or township, county, and township/range location;
- c. an evaluation of the impact of the discharge on the receiving waters in relation to the water quality standards;
- d. a map identifying discharge location(s) and monitoring point(s);
- e. the estimated average and maximum discharge rates;
- f. the estimated total flow volume of discharge;
- g. the water supply for the test water, with a copy of the appropriate Minnesota Department of Natural Resources (DNR) water appropriation permit;
- h. water quality data for the water supply;
- i. proposed treatment method(s) before discharge; and
- j. methods to be used to prevent scouring and erosion due to the discharge.

4.2 This permit does not authorize the construction or installation of pipeline facilities.

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Chapter 5. Industrial Process Wastewater, NPDES/SDS

5. Mobile and Rail Equipment Service Areas

- 5.1 Mobile equipment and rail equipment service areas in the facility shall be operated in compliance with the following:
- a. The Permittee shall collect and dispose of locomotive traction sand, degreasing wastes, motor oil, oil filters, oil sorbent pads and booms, transmission fluids, power steering fluids, brake fluids, coolant/antifreeze, radiator flush wastewater and spent solvents in accordance with applicable solid and hazardous waste management rules. These materials shall not be discharged to surface or ground waters of the state.
 - b. The steam-cleaning of mobile equipment and rail equipment, except for limited outdoor cleaning of large drills and shovels, shall be conducted in wash bays that drain to wastewater treatment systems that include the removal of suspended solids and flammable liquids. The only washing of mobile equipment done in outside areas shall be to remove mud and dirt that has accumulated during outside work.
 - c. The Permittee shall not use solvent-based cleaners, such as those available for brake cleaning and degreasing, to wash mobile and rail equipment unless the cleaning fluids are completely contained and not allowed to flow to surface or ground waters of the state. Soaps and detergents used in washing shall be biodegradable.
 - d. Mobile and rail equipment maintenance and repairs shall not be conducted in wash bays.
 - e. Hazardous materials shall not be stored or handled in wash bays.
 - f. The Permittee shall inspect wastewater containment systems regularly, and repair any leaks that are detected immediately.
 - g. If the Permittee discovers that recoverable amounts of petroleum products have entered wastewater containment systems, they shall be recovered immediately and reported to the MPCA.
 - h. Spill cleanup procedures shall be posted in mobile and rail equipment maintenance and repair areas.

6. Polychlorinated Biphenyls (PCBs)

- 6.1 PCBs, including but not limited to those used in electrical transformers and capacitors, shall not be discharged or released to the environment.

7. Application for Permit Reissuance

- 7.1 The permit application shall include analytical data as part of the application for reissuance of this permit. These analyses shall be done on individual samples taken during the twelve-month period before the reissuance application is submitted.

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Chapter 5. Industrial Process Wastewater, NPDES/SDS

7. Application for Permit Reissuance

- 7.2 The permit application shall include analytical data for monitoring stations SD 001, SD 002, and SD 003 for parameters in accordance with Minnesota Rules 7001.1060 and 7001.1061 and instructions of the applicable EPA Permit Application Form 2C.

Chapter 6. Total Facility Requirements

1. Definitions

- 1.1 "Calendar Month Average" is calculated by adding all daily values measured during a calendar month and dividing by the number of daily values measured during that month. The "Calendar Month Average" limit is an upper limit.
- 1.2 "Calendar Month Average Intervention Limit" is an upper limit that, if exceeded, indicates the need for specified response actions by the Permittee. The "Calendar Month Average Intervention Limit" is calculated by adding all daily values measured during a calendar month and dividing by the number of daily values measured during that month.
- 1.3 "Calendar Month Flow-Weighted Mean" is the arithmetic mean of all samples collected during one calendar month. To calculate:
- multiply each individual sample taken during the month by its respective individual flow;
 - add these calculations; and
 - divide by the sum of the flows.
- The "Calendar Month Flow-Weighted Mean" is an upper limit.
- 1.4 "Calendar Month Geometric Mean" is calculated by multiplying the value of all samples taken during the month by each other, where the number of samples = n , and calculating the n th root of the product. The "Calendar Month Geometric Mean" is an upper limit.
- 1.5 "Calendar Month Maximum" is the highest value of single samples taken throughout the month. The "Calendar Month Maximum" is an upper limit.
- 1.6 "Calendar Month Minimum" is the lowest value of single samples taken throughout the month. The "Calendar Month Minimum" is a lower limit.
- 1.7 "Calendar Month Total" is calculated by adding all daily values measured during a calendar month. It is usually expressed in mass or volume units. The "Calendar Month Total" is an upper limit.

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Chapter 6. Total Facility Requirements

1. Definitions

- 1.8 "Calendar Month Total Intervention Limit" is an upper limit that, if exceeded, requires the need for specified response actions by the Permittee. The "Calendar Month Total Intervention Limit" is calculated by adding all of the daily values measured during a calendar month.
- 1.9 "Calendar Year Average" is calculated by adding all sample values measured during a calendar year and dividing by the number of samples measured during that year. The "Calendar Year Average" limit is an upper limit.
- 1.10 "Calendar Year Maximum" is the highest value of single samples taken throughout the calendar year. The "Calendar Year Maximum" is an upper limit.
- 1.11 "Calendar Year To Date Total" is calculated by adding all amounts measured from the first month in the "effective period" to the end date of the reporting period. It is usually expressed in mass or volume units. The "Calendar Year To Date Total" is an upper limit for the entire year, but is reported monthly. When the limit is reached, further applications or discharges are prohibited.
- 1.12 "Calendar Year Total" is calculated by adding all values measured during a calendar year. It is usually expressed in mass or volume units. The "Calendar Year Total" is an upper limit.
- 1.13 "Daily Maximum" means the maximum allowable discharge of pollutant during a calendar day. Where daily maximum limitations are expressed in units of mass, the daily discharge is the total mass discharged over the course of the day. Where daily maximum limitations are expressed in terms of a concentration, the daily discharge is the arithmetic average measurement of the pollutant concentration derived from all measurements taken that day. The "Daily Maximum" is an upper limit.
- 1.14 "Single Value" is a reported value from a single sample or measurement for which there is no limit.
- 1.15 "Storm Water" means storm water runoff, snow melt runoff, and surface runoff and drainage.
- 1.16 "Twelve-Month Average" is a rolling average of Phosphorus concentrations in wastewater discharges expressed in mg/L. The Twelve-Month Average shall be reported monthly, and is calculated by adding all of the values sampled during the last twelve months, including the values sampled during the month of the current reporting period, and dividing by the number of sample values measured during that twelve-month period. The "Twelve-Month Average" limit is an upper limit.

2. Sampling and Analyses

- 2.1 Samples and measurements required by this permit shall be representative of the monitored activity and shall be analyzed by a laboratory certified by the Minnesota Department of Health for the applicable permitted parameters. Analyses of dissolved oxygen, pH, temperature and total residual chlorine do not need to be completed by a certified laboratory.

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Chapter 6. Total Facility Requirements

2. Sampling and Analyses

- 2.2 Sample preservation and test procedures for the analysis of pollutants shall conform to 40 CFR Part 136 and Minnesota Rules, part 7041.3200.
- 2.3 Volatile organics shall be analyzed using Minnesota Department of Health Method 465E or equivalent method.
- 2.4 All monitoring and analytical instruments used to monitor as required by this permit shall be calibrated and maintained at a frequency necessary to ensure accuracy. The Permittee shall measure flows to ensure accuracy within plus or minus ten percent of the true flow values. The Permittee shall maintain written records of all calibrations and maintenance.
- 2.5 The "sample type", "sampling frequency" and "effective period" identified in the Limits and Monitoring section of this permit together designate the minimum required monitoring frequency.
- 2.6 If a Permittee monitors more frequently than required by this permit, the results and the frequency of monitoring shall be reported on the Discharge Monitoring Report (DMR) or other form for that reporting period.
- 2.7 For bypasses, upsets, spills or any other discharge that may cause pollution of the waters of the state, the Permittee shall take at least one (1) grab sample for permitted effluent parameters two (2) times per week. If the Permittee believes that measuring these parameters is inappropriate due to known information about the discharge, the monitoring may be modified in consultation with the MPCA. Where there is reason to believe a pollutant other than those limited in the permit is present, the Permittee shall sample for that pollutant. Appropriate sampling shall be determined in consultation with the MPCA.

3. Reporting

- 3.1 The Permittee shall report monitoring results for the completed reporting period in the units specified by this permit on a Discharge Monitoring Report (DMR) form or other report form provided by or approved by the MPCA.
- 3.2 The Permittee shall report ground water monitoring results on a Ground Water Monitoring Report form provided by the MPCA.
- 3.3 The Permittee shall report monitoring results below the reporting limit (RL) of a particular instrument as "<" the value of the RL. For example, if an instrument has a RL of 0.1 mg/L and a parameter is not detected at a value of 0.1 mg/L or greater, the concentration shall be reported as "<0.1 mg/L." "Non-detected", "undetected", "below detection limit" and "zero" are unacceptable reporting results, and are permit reporting violations.

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3. Reporting

- 3.4 A Discharge Monitoring Report (DMR) shall be submitted for each station even if no discharge occurred during the reporting period. The Permittee shall report 'No Discharge', 'No Flow' or 'No Materials Generated' on a DMR or other monitoring report form only if no discharge, flow or materials are generated during the entire reporting period. The schedule for reporting can be found on the Submittals Summary section of this permit.
- 3.5 The Permittee shall report the following information on the Discharge Monitoring Report (DMR):
- any substantial changes in operational procedures;
 - activities which alter the nature or frequency of the discharge; and
 - material factors affecting compliance with the conditions of this permit.
- 3.6 The Permittee shall report monitoring results of bypass events on its Discharge Monitoring Report (DMR). If no bypass events occurred, check the "No Discharge" box on the DMR.
- 3.7 The Permittee or the duly authorized representative of the Permittee shall sign the reports and documents submitted to the MPCA by the Permittee. (Minnesota Rules, pt. 7001.0150, subp. 2.D)
- 3.8 A person who falsifies, tampers with, or knowingly renders inaccurate a monitoring device or method required to be maintained under this permit is subject to penalties provided by federal and state law. (Minnesota Rules, pt. 7001.1090, subp. 1.G)
- 3.9 The Permittee shall report noncompliance with the permit not reported under Minnesota Rules, part 7001.0150, subpart 3, item K as a part of the next report which the Permittee is required to submit under this permit. If no reports are required within 30 days following the end of the month in which the noncompliance occurred, the Permittee shall submit the information listed in Minnesota Rules, part 7001.0150, subpart 3, item K within 30 days of the discovery of the noncompliance. (Minnesota Rules, pt. 7001.0150, subp. 3.L)
- 3.10 A person who knowingly makes a false statement, representation, or certification in a record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance is subject to penalties provided by federal and state law set forth. (Minnesota Rules, pt. 7001.1090, subp. 1.H)

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Chapter 6. Total Facility Requirements

4. Records

- 4.1 The Permittee shall maintain records for each sample and measurement. The records shall include the following information:
- the exact place, date and time of the sample or measurement;
 - the date of analysis;
 - the name of the person who performed the sample collection, measurement, analysis, or calculation;
 - the results of the analysis.

The Permittee shall also maintain records of analytical techniques, procedures and methods used.

- 4.2 The Permittee shall keep the records required by this permit for at least three (3) years, including any calculations, original recordings from automatic monitoring instruments, and laboratory sheets. The Permittee shall extend these record retention periods upon request of the MPCA and/or during the course of an unresolved enforcement action. (Minnesota Rules, pt. 7001.0150, subp. 2.C.)
- 4.3 Except for data determined to be confidential according to Minnesota Statutes, ch. 116.075, subd. 2, all reports required by this permit shall be available for public inspection at the MPCA St. Paul office. Effluent data shall not be considered confidential. Confidential material shall be submitted according to Minnesota Rules, pt. 7000.1300.
- 4.4 The Permittee shall, when requested by the commissioner, submit within a reasonable time the information and reports that are relevant to the control of pollution regarding the construction, modification, or operation of the facility covered by the permit or regarding the conduct of the activity covered by the permit. (Minnesota Rules, pt. 7001.0150, subp. 3.H.)

5. Compliance Responsibility

- 5.1 The Permittee shall perform the actions or conduct the activity authorized by the permit in accordance with the plans and specifications approved by the agency and in compliance with the conditions of the permit. (Minnesota Rules, pt. 7001.0150, subp. 3.E.)
- 5.2 Whether or not this permit includes effluent limitations for toxic pollutants, the Permittee shall not discharge a toxic pollutant except according to Code of Federal Regulations, title 40, sections 400 to 460 and Minnesota Rules, parts 7050.0100 to 7050.0221 and 7052.0010 to 7052.0110 (applicable to toxic pollutants in the Lake Superior Basin) and any other applicable MPCA rules. (Minnesota Rules, pt. 7001.0150, subp. 1.A.)

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6. Noncompliance

- 6.1 Noncompliance with the requirements of this permit subjects the Permittee to penalties provided by federal and state law including monetary penalties, imprisonment, or both. (Minnesota Rules, pt. 7001.1090, subp. 1.B.; U.S.C. title 33, sect. 1319; Minn. Stat. sect. 115.071)
- 6.2 If the Permittee discovers that noncompliance with a condition of the permit has occurred, the Permittee shall:
- take all reasonable steps to minimize the adverse impacts to human health, public drinking water supplies, or the environment resulting from a permit violation.
 - notify the Minnesota Department of Public Safety Duty Officer at 1(800)422-0798 or (651)649-5451 within 24 hours of becoming aware of a permit violation that may endanger human health, public drinking water supplies or the environment. The Permittee shall submit a written description of the exceedance to the MPCA within five (5) days of discovery of the exceedance.
- Nothing in this requirement relieves the Permittee from immediately notifying the MPCA of any release to surface waters of the state. (Minnesota Rules, pt. 7001.0150, subp. 3. J, K)
- 6.3 The Permittee shall submit a written description of any bypass, spill, upset or permit violation during the reporting period to the MPCA with its Discharge Monitoring Report (DMR). If no DMR is required within 30 days following the end of the month in which the noncompliance occurred, the Permittee shall submit a written report within 30 days of the discovery of the noncompliance. This description shall include the following information:
- a description of the event including volume, duration, monitoring results and receiving waters;
 - the cause of the event;
 - the steps taken to reduce, eliminate and prevent reoccurrence of the event;
 - the exact dates and times of the event; and
 - steps taken to reduce any adverse impact resulting from the event. (Minnesota Rules, pt. 7001.0150, subp. 3.K)

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7. Upset Defense

- 7.1 In the event of temporary noncompliance by the Permittee with an applicable effluent limitation resulting from an upset at the Permittee's facility due to factors beyond the control of the Permittee, the Permittee has an affirmative defense to an enforcement action brought by the agency as a result of the noncompliance if the Permittee demonstrates by a preponderance of competent evidence:
- a. the specific cause of the upset;
 - b. that the upset was unintentional;
 - c. that the upset resulted from factors beyond the control of the Permittee and did not result from operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or increases in production which are beyond the design capability of the treatment facilities;
 - d. that at the time of the upset the facility was being properly operated;
 - e. that the Permittee properly notified the commissioner of the upset in accordance with Minnesota Rules, part 7001.0150, subpart 3, item I; and
 - f. that the Permittee implemented the remedial measures required by Minnesota Rules, part 7001.0150, subpart 3, item J. (Minnesota Rules, pt. 7001.1090, subp. 1.L)

8. Duty to Notify and Avoid Water Pollution

- 8.1 The Permittee shall notify the Minnesota Department of Public Safety Duty Officer at (800)422-0798 or (651)649-5451 immediately of the discharge, accidental or otherwise, of any substance or material under its control which, if not recovered, may cause pollution of waters of the state. Notification is not required for a discharge of five (5) gallons or less of petroleum. (Minnesota Statutes, section 115.061)
- 8.2 The Permittee shall report to the Duty Officer all pertinent information regarding the discharge. Refer to the MPCA "Emergency Notification Guidance for Wastewater Treatment Systems" for further information.
- 8.3 The Permittee shall take all reasonable steps to minimize the adverse impacts to human health, public drinking water supplies or to the environment resulting from the discharge. This may include restricting or preventing untreated or partially treated wastewater, plant chemicals or feedlot materials from entering waterways, containing spilled materials, recycling by-passed wastewater through the plant, or using auxiliary treatment methods. (Minnesota Statutes, section 115.061)

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8. Duty to Notify and Avoid Water Pollution

8.4 The Permittee shall maintain a plan designed to adequately notify the public of potential health threats due to discharges of untreated or partially treated wastewater. The Permittee shall notify the public in accordance with the plan.

9. Anticipated Bypasses

9.1 The Permittee may allow a bypass to occur if the bypass will not cause the exceedance of an effluent limitation but only if the bypass is necessary for essential maintenance to assure efficient operation of the facility. The permittee shall submit notice of the need for the bypass at least ten days before the date of the bypass. (Minnesota Rules, pt. 7001.1090, subp. 1.J)

9.2 The notice of the need for a bypass shall include the following information:

- a. The proposed date and estimated duration of the bypass.
- b. The alternatives to bypassing.
- c. The proposed measures to mitigate environmental harm caused by the bypass.
- d. A proposal for bypass monitoring.

9.3 The Permittee shall not allow an anticipated bypass to occur that will cause an exceedance of an applicable effluent limitation unless the following conditions are met:

- a. The bypass is unavoidable to prevent loss of life, personal injury, or severe property damage. For the purposes of this paragraph, "severe property damage" means substantial damage to property of the Permittee or of others; damage to the wastewater treatment facilities that may cause them to become inoperable; or substantial and permanent loss of natural resources that can be reasonably expected to occur in the absence of a bypass. "Severe property damage" does not mean economic loss as a result of a delay in production.
- b. There is no feasible alternative to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or performance of maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance.
- c. The Permittee has notified the commissioner of the anticipated bypass and the commissioner has approved the bypass. The commissioner shall approve the bypass if the commissioner finds that the conditions set forth in Minnesota Statutes, part 7001.0190, subpart 1, items A and B are met. (Minnesota Rules, pt. 7001.1090, subp. 1.K)

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10. Facilities Operation

- 10.1 The Permittee shall properly operate and maintain the systems used to achieve permit compliance. Proper operation and maintenance includes effective performance, adequate funding, adequate staffing and training, and adequate process and laboratory controls, including appropriate quality assurance procedures. (Minnesota Rules, pt. 7001.0150, subp. 3.F)
- 10.2 The Permittee is responsible for insuring system reliability and shall install adequate backup or support systems to achieve permit compliance and prevent the discharge of untreated or inadequately treated waste. These systems may include alternative power sources, auxiliary treatment works and sufficient storage volume for untreated wastes. (Minnesota Rules, pt. 7001.0150, subp. 3.F)
- 10.3 In the event of a reduction or loss of effective treatment of wastewater at the facility, the Permittee shall control production or curtail its discharges to the extent necessary to maintain compliance with the terms and conditions of this permit. The Permittee shall continue this control or curtailment until the wastewater treatment facility has been restored or until an alternative method of treatment is provided. (Minnesota Rules, pt. 7001.1090, subp. 1.C.)
- 10.4 The Permittee shall store, transport and dispose of biosolids, sediments, residual solids, collected filter backwash and screenings, oil, grease and other substances so that pollutants do not enter surface waters or ground waters of the state. Intake screen backwash water and contents are returned to the river, which may assist with protection of fish and other aquatic organisms.
- 10.5 The Permittee's discharge shall not cause any nuisance conditions, acutely toxic conditions to aquatic life or other adverse impact on the receiving water.
- 10.6 The Permittee shall comply with all applicable water quality, air quality, solid waste and hazardous waste statutes and rules in the operation and maintenance of the facility.
- 10.7 The Permittee shall schedule maintenance of the treatment works during non-critical water quality periods to prevent degradation of water quality.
- 10.8 In-plant control tests shall be conducted at a frequency adequate to ensure continuous efficient operation of the treatment facility.

11. Chemical Additives

- 11.1 The Permittee shall receive prior written approval from the MPCA before increasing the use of a chemical additive authorized by this permit, or using a chemical additive not authorized by this permit. "Chemical additive" includes processing reagents, water treatment products, cooling water additives, freeze conditioning agents, chemical dust suppressants, detergents and solvent cleaners used for equipment and maintenance cleaning, among other materials.
- 11.2 The Permittee shall request approval for an increased or new use of a chemical additive 60 days before the proposed increased or new use.

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11. Chemical Additives

11.3 This written request shall include the following information for the proposed additive:

- a. Material Safety Data Sheet.
- b. A complete product use and instruction label.
- c. The commercial and chemical names of all ingredients.
- d. Aquatic toxicity and human health or mammalian toxicity data including a carcinogenic, mutagenic or teratogenic concern or rating.
- e. Environmental fate information including, but not limited to, persistence, half-life, intermediate breakdown products, and bioaccumulation data.
- f. The proposed method, concentration, and average and maximum rates of use.
- g. If applicable, the number of cycles before wastewater bleedoff.
- h. If applicable, the ratio of makeup flow to discharge flow.

11.4 This permit may be modified to restrict the use or discharge of a chemical additive.

12. Inspection And Entry

12.1 The Permittee shall allow a representative of the MPCA, in accordance with Section 308 of the Act and Minnesota Statutes, section 115.04, (1992), and upon presentation of proper credentials, to:

- a. enter the premises where the facility is located or activity conducted;
- b. review and copy the records required by this permit;
- c. inspect the facilities, systems, equipment, practices or operations regulated or required by this permit;
- d. sample or monitor to determine compliance; and
- e. bring equipment upon the Permittee's premises necessary to conduct surveys and investigations. (Minnesota Rules, pt. 7001.0150, subp. 3.I)

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13. Permit Modifications

- 13.1 Changes to the facility or operation of the facility may require a permit modification. The Permittee shall submit an application describing the changes to the facility or operation to the MPCA and receive a permit modification prior to implementing the changes. The Permittee must submit the permit modification application fee in accordance with Minnesota Rules, part 7002.0250 with the application.
- 13.2 The following changes may require a permit modification:
- a. Increased use or new use of a chemical additive.
 - b. Changes in the characteristics, concentrations or frequency of the wastewater flow, which may include new significant industrial discharges to a sanitary sewage treatment system, significant changes in existing industrial discharges to a sanitary system, significant rerouting of wastewater for reuse or for land disposal or significant changes in the levels of indicator characteristics.
 - c. Changes in biosolids or residual solids use and disposal practices.
- 13.3 The procedures as set forth in Minnesota Rules, pt. 7001.0100 through 7001.0130, including public notice, apply to applications for permit modifications, with the following exceptions:
- a. Modifications solely as to ownership or control as described in Minnesota Rules, pt. 7001.0190, subp. 2.
 - b. Minor modifications as described in Minnesota Rules, pt. 7001.0190, subp. 3.
- 13.4 No permit may be assigned or transferred by the holder without the approval of the MPCA. A person to whom the permit has been transferred shall comply with the conditions of the permit. (Minnesota Rules, pt. 7001.0150, subp. 3.N)

14. Construction

- 14.1 Construction related to facility modifications, additions or expansions that is not expressly authorized by this permit requires a permit modification. If the construction project requires an Environmental Assessment Worksheet under Minnesota Rules, ch. 4410, no construction shall begin until a negative declaration has been issued and all approvals have been received or implemented. (Minnesota Rules, pt. 7001.0030)
- 14.2 No construction shall begin until the Permittee has received written approval of reports, plans and specifications for the construction from the MPCA.

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15. Permit Modification, Suspension or Revocation

15.1 This permit may be modified, suspended, or revoked for the following reasons:

- a. A violation of permit requirements.
- b. Misrepresentation or failure to disclose fully all relevant information to obtain the permit.
- c. A change in a condition that alters the discharge.
- d. The establishment of a new or amended pollution standard, limitation or effluent guideline that is applicable to the permitted facility or activity.
- e. Failure to pay permit fees.
- f. Other reasons listed in Minnesota Rules, pt. 7001.0170.

16. Permit Reissuance

- 16.1 The Permittee shall submit an application for reissuance at least 180 days before permit expiration. (Minnesota Rules, pt. 7001.0040, subp. 3)
- 16.2 If the Permittee has submitted a timely application for permit reissuance, the Permittee may continue to conduct the activities authorized by this permit, in compliance with the requirements of this permit, until the MPCA takes final action on the application, unless the MPCA determines one of the following:
 - a. The Permittee is not in substantial compliance with the requirements of this permit, or with a stipulation agreement or compliance schedule designed to bring the Permittee into compliance with this permit.
 - b. The MPCA, as a result of an action or failure to act by the Permittee, has been unable to take final action on the application on or before the expiration date of the permit.
 - c. The Permittee has submitted an application with major deficiencies or has failed to properly supplement the application in a timely manner after being informed of deficiencies. (Minnesota Rules, pt. 7001.0160)
- 16.3 If the Permittee does not intend to continue the activities authorized by this permit after the expiration date of this permit, the Permittee shall notify the MPCA. The MPCA may require the Permittee to apply for reissuance or a major modification of this permit to authorize facility closure.

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17. Facility Closure

- 17.1 Facility closure that could result in a potential long-term water quality concern, such as the ongoing discharge of wastewater to surface or ground water, may require a permit modification. An application for permit modification shall be submitted to the MPCA for approval before the proposed change is implemented.
- 17.2 The Permittee is responsible for closure and postclosure care of the facility. The Permittee shall notify the MPCA of a significant reduction or cessation of operations described in this permit.
- 17.3 The MPCA may require the Permittee to establish financial assurance for closure, postclosure care and remedial action at the facility.

18. Property Rights

- 18.1 The permit does not convey a property right or an exclusive privilege. (Minnesota Rules, pt. 7001.0150, subp. 3.C)

19. Liability Exemption

- 19.1 In issuing this permit, the state and the MPCA assume no responsibility for damage to persons, property, or the environment caused by the activities of the Permittee in the conduct of actions, including those activities authorized, directed, or undertaken to achieve compliance with this permit. To the extent the state and MPCA may be liable for the activities of its employees, that liability is explicitly limited to that provided in the Tort Claims Act, Minnesota Statutes, section 3.736. (Minnesota Rules, pt. 7001.0150, subp. 3.O)
- 19.2 The MPCA's issuance of this permit does not obligate the MPCA to enforce local laws, rules or plans beyond what is authorized by Minnesota Statutes. (Minnesota Rules, pt. 7001.0150, subp. 3.D)

20. Liabilities

- 20.1 The MPCA's issuance of this permit does not release the Permittee from any liability, penalty or duty imposed by Minnesota or federal statutes or rules or local ordinances, except the obligation to obtain the permit. (Minnesota Rules, pt. 7001.0150, subp. 3.A)
- 20.2 The issuance of a permit does not prevent the future adoption by the MPCA of pollution control rules, standards or orders more stringent than those now in existence and does not prevent the enforcement of these rules, standards or orders against the Permittee. (Minnesota Rules, pt. 7001.0150, subp. 3.B)

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21. Severability

21.1 The provisions of this permit are severable, and if any provisions of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

22. Incorporation By Reference

22.1 The Permittee shall comply with the provisions of 40 CFR Parts 122.41 and 122.42, Minnesota Rules, pt. 7001.0150, subp. 3, and pt. 7001.1090, which are incorporated into this permit by reference, and are enforceable parts of this permit.

SEP 18 1979

Donald E. Sells, Acting Chief
Environmental Projects Branch No. 2
Division of Safety and Environmental Analysis
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Re: Environmental Issues - NSP Monticello Nuclear
Generating Plant
NRC Concerns Discussed at Meeting of July 31, 1979

Dear Mr. Sells:

This letter is in response to your letter of August 28, 1979, requesting confirmation of Minnesota Pollution Control Agency (MPCA) actions with respect to environmental issues at the Monticello Nuclear Generating Plant. At the meeting with your staff on July 31, 1979, we discussed the following areas which cover most all of the non-radiological environmental aspects:

1. Chemical Wastewater Discharged to the Mississippi River. These wastes consist chiefly of demineralizer regenerates (20,000 gallons/day) and infrequent blowdowns from a plant heating system boiler. The plant also discharges miscellaneous drainage from floor drains via the turbine building sump. The above minor discharges are identified and monitored as required by the NPDES Permit, and have been in compliance with the effluent limitations of the Permit.

In addition to these chemical releases, chlorine is also added and discharged via the condenser cooling system. The Company completed a chlorine optimization study to determine the minimal quantity of chlorine required to prevent biofouling, and the conclusions of this study are consistent with the NPDES effluent limitation of .2 mg/l total residual chlorine, discharged no longer than 60 days. The Company has had no problem meeting the current limitation of .2 mg/l.

612-296-7301

Donald E. Sells
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2. Thermal Effects of Cooling Water Discharge to Benthic Communities. MPCA staff have reviewed and discussed in detail the 316(a) demonstration of thermal impacts and find that the thermal discharges from Monticello currently offer no substantial detrimental effects to the benthic and fisheries communities.

3. Cold Shock Mortality. During the past operating history of the plant, fish have been killed as a result of cold shock when the plant has abruptly shut down during the winter. Most of the cold shock mortality has been observed in the discharge canal. NSP and MPCA staff investigated the areas impacted by cold shock and concluded that at a minimum 2/3 of the total cold shock area was contained in the discharge canal. In order to eliminate this problem the Company is designing a fish barrier-discharge overflow structure to be located at the confluence of the discharge canal and the river. This structure will eliminate cold shock mortality in the discharge canal and reduce potential cold shock mortality in the river directly adjacent to the discharge. Pursuant to design and mathematical modeling, this structure will likely be constructed by the end of 1980.

4. Fish Impingement and Entrapment. Pursuant to review of the 316(a) demonstration, MPCA staff conclude that impingement-entrainment at the Monticello Plant offers no substantial detriment to the fisheries population. However, the Company has been requested to make some operational changes such as continuous operation of vertical traveling screens during peak impingement periods. The Company has also investigated reduction of water appropriation during peak entrainment periods (May, June) to the extent practicable without a plant derate.

I hope the above adequately describes MPCA activity in the areas of non-radiological environmental issues at the Monticello Plant and documents our belief that all areas are being adequately addressed. Should you have any additional questions please contact me at 612-296-7301.

Sincerely,


Terry Hoffman
Executive Director

TH/dc

cc: Don L. Briars
Mark Laskinen